The infiNET Possibilities: English Teachers on the Internet

By Anthea Tillyer

The digital revolution affects us all. Quite simply, the "Digital Revolution" is changing everything; a brilliant barrage of information, entertainment, companionship, and education is now speedily available to us though the computer, whether at home or at work. With the price of personal computers falling, more and more households and schools around the world are acquiring this technology and with it the challenge of learning to use the many varieties of color and form on the Internet-its infiNET possibilities. All of this means greater flexibility and freedom for individuals.

In the case of the Digital Revolution, the only way to become familiar with current trends is to experiment and participate, which means getting "on-line." This article will explain some of the more common ways of becoming Internet-fluent- Getting on-line ,- and some of the more persuasive reasons for doing so. It will also describe some of the resources on the Internet for teachers and students and explain ways in which some of these resources can be used in the classroom and for research- Materials and resources for teachers . Not surprisingly, I have written this with an audience of teachers in mind, and primarily for teachers who are relatively new or inexperienced on the Internet or are still trying to get on board.

What to Expect

People have many questions about the Internet and a lot of healthy skepticism about how something that didn't even really exist eight years ago could be so indispensable and influential today. What is the Internet anyway? Why is so much being written about it? Most descriptions of the Internet include the definition "a network of linked computers," which, although accurate, does not paint a very enticing picture. It neglects the richness, color, variety, and texture of "Cyberspace." Imagine the monochrome screen of letters and numbers of the traditional computerized library catalog. Then imagine those monochrome letters and numbers changed at the click of the mouse to colored words and colored moving pictures of the characters in books, autobiographies of authors (perhaps even with pictures and the sound of their voices). You might even choose to see what other books particular authors have written and clips of movies of those books. This is all possible on the Internet and, given the correct connection, you and your computer can "talk" and share with other computers around the world and tap into this vast reservoir of information. You will have the capacity to share text, pictures, and music with far-off places and people, quickly, easily, and inexpensively.

No one denies that a visit to the Internet will show amazing technology and a fascinating storehouse of information. But many people do not realize the wealth of *creativity* and *culture* on the Internet, which makes it the ultimate teaching tool for language teachers. True, there is much

that is trivial, tasteless, and incorrect, but the Internet is impossible to describe; the only way to understand the Internet is to "get on-line."

I still remember my elation when I first got on-line, the exhilaration of my first e-mail message! I also remember the frustration and irritation that preceded that elation; I have had many frustrating experiences using electronic communications since then, and I am sure I will have many more of them. So, I would like to accompany my description of how to access the Internet by a reminder that the experience can be extremely annoying. It can take longer than you expect and be frustrating enough to make you want to give up. But now, after conducting scores of teacher-training seminars, I see that learning to use electronic communications can be like learning a new language-very confusing, but usually followed by real and lasting rewards.

Yet another caveat: Readers of books and articles about the Internet need to be aware, just as the people who write about the Internet are, that the speed of technological change will make such writings out of date almost before they are typed. But it is not only *time* that renders the writing inaccurate, it also a question of *place* ; infrastructure, legal and technological circumstances vary tremendously both within and among countries. So what is written here will need to be interpreted based on your particular circumstances.

Getting On-line

Almost as soon as you start to use the Internet, it will become clear that electronic mail (e-mail) is one of the greatest language-teaching materials ever created. E-mail allows all of us to communicate quickly and inexpensively over long distances without obstacles such as time zone differences, the time-lag of ordinary mail, or the long-distance telephone charges for faxes. Therefore, students can actually USE the language to communicate with real people about issues that interest them. Electronic mail can thus supply the ultimate "contextualized" practice. Students (and teachers) can also use the speed, simplicity, and low-cost of e-mail to work in teams on joint projects with other classes. The "Net" provides ample resources for projects and research activities. Since e-mail is "low-tech" in terms of the Internet and does not require vast technological know-how or expense, it is still the favorite electronic teaching tool of language teachers, but it is far from being the only resource on the Internet. Joining e-mail discussion forums for teachers will quickly point new "netters" in the direction of finding and using the other resources- such as the World Wide Web area of the Net.

The following instructions and guidelines are generally directed at the growing number of teachers who would like to use the Internet at home, as well as for those teachers who have access to the Internet at school but have little in the way of support and training.

a. The computer: To start your journey into the future, you will need access to a computer. In the early days of the Internet and e-mail (until around 1993), it was not very important what kind of computer you used because plain black and white text files like e-mail were not very demanding of a machine. However, this is no longer universally true; the jewel of the Internet, the World Wide Web area, has color, sound, full-motion video, and wonderful graphics, all of which require a fairly powerful modern computer with graphics capabilities and a large memory

capacity. Still, there is plenty of value and fun on the Internet without getting entangled in the World Wide Web (WWW), so do not despair if the only machine you can access on a regular basis does not have Web capability. E-mail and e-mail-based resources can serve you well, and they move faster and more reliably than the WWW.

b. The modem: Once you have your personal computer (IBM-type or MAC), you will need some way of connecting that computer to communications lines. Although this technology is developing fast, the modem (Modulator- Demodulator) is still the most common and efficient way to do this. A modem is a very small device; some modems are smaller than a credit card, but whatever their size, they attach to your computer (either internally or externally) and serve to make your computer connect to another "hub" computer over communication/telephone lines. Luckily, modems are not expensive, and they are all pretty reliable. Most modern computers come with the modem already installed, but in any case modems are extremely easy to install, especially the external ones. The problem with modems, though, is that they become out of date very fast. "Out of date" in this context means "slow." The speed of a modem is measured in BPS (bits per second), which means how many "bits" of data the modem can deliver to you in one second. At this writing (September, 1996), the fastest modem is 57,700 bps, but most people are still using 9600 bps or 14,400 bps modems, and some are still using 2400 bps modems. Modem speeds are also sometimes referred to as baud. It is reasonable to ask why speed is so important; after all, we don't worry about the speed of our TV sets. The truth is that for black and white text communications (like e-mail) the speed of a modem is really not that important. However, color, sound, and graphics (such as the World Wide Web) use millions of bits of data, and if your modem is slow, it can take a very long time to receive even one small picture from the Web. Waiting for a picture to arrive, dot by dot, is not one of the more rewarding uses of a teacher's time, so the accepted wisdom is that you need the fastest modem you can find and afford.

c. Communication software: Most modems come with communications software, which is essential for instructing the computer to use the modem to communicate. Naturally, a computer that comes with the modem already installed will also come with the necessary software. But if at some point you want to upgrade to a faster modem, you may also need to install new software or at least reset the program that you have already installed, all of which sounds much more complicated than it really is.

d. A connection to your "host": Your modem will not be able to do much until it can use reliable phone service to connect your computer to the "host" computer (the one which will actually open the Internet door for you). Telephone service can be very expensive. Even if it is a local call to the "host" computer, many localities charge for calls by connection time, which makes the Internet too expensive for many people. But price is not the only consideration for a would-be "netter"; one must not forget the other members of the family or office who might want to use the phone when a computer is tying a phone line to connect to the Internet. This can cause conflict with others who need to use the line and concern among those who are trying to reach you and worry when the number always rings busy. One form of Internet connection, ISDN (Integrated Services Digital Network), uses modem cables and fiber optics so efficiently that you can talk on the phone, run answering and fax machines, and connect to the Internet all at the same time on the same line. This service requires the very latest cables, which most places do not yet have. Moreover, cabling is a capital-intensive proposition, so telephone and cable companies

pass along the high cost to their consumers. Thus, ISDN is not yet a realistic choice for most consumers even if it is technically available to them. Cable TV companies, which have already laid their cable, will probably offer less expensive Internet access as they become major competitors in this field.

Not all computers are connected to the Internet host machine by public phone or cable lines. Some institutions are directly linked by a private, closed connection to the "host" or "hub" computer, so that they are in essence mere *terminals* of the host machine. This is called hard-wire. In this case, there is no need for a modem. In the future, the majority of Internet connections will be direct cable connections, using cable TV lines or enhanced phone lines. But today that is not a realistic option for most people, particularly for those who want to connect to the Internet from home.

e. Internet service provider (aka Internet access provider): Your computer, modem, phone service, and software are all set up, but they have no place to go if you do not have an ISP (Internet Service Provider) or an IAP (Internet Access Provider). This is the service that maintains the "host" computer which is directly connected to the network of linked computers that form the Internet and which you must pass through in order to gain access. The issue of Internet access is one of the most perplexing in the field of electronic communications because there are many variations and options and because the Internet access landscape changes almost daily. I can only describe the situation in very general terms, and reiterate my caveat that Internet access varies from country to country and from region to region. Not only that, circumstances change very fast.

For Teachers Only

Teachers at many universities and colleges are provided with access to the Internet by their school. Universities vary, though, in what kind of access they give to their teachers and students and whether the service can be accessed from home (known as "dial-up" service). There is also considerable variation regarding which academic disciplines can have free access to the Internet resources that the university or college provides. Traditionally, teachers in the fields of math and science have had priority because it was thought imperative that those fields be able to communicate quickly and reliably with their research colleagues around the world. Teachers in the humanities (which includes teachers of English, of course) have sometimes had to struggle to convince their universities that the Internet is a *bona fide* teaching tool for language. In short, there has been considerable inequality of opportunity for Internet access among university teachers around the world.

Once an institution is connected to the Internet, it is not expensive to provide e-mail capabilities for teachers and even for students. Institutional Internet access costs are usually calculated based on the size of the institution (how many students, etc.) and not by the volume of electronic mail or Internet usage. Therefore, there is no logical basis for rationing e-mail access on the basis of cost. On the other hand, some institutional machines are already overloaded and simply cannot manage more traffic, in which case the university or college has to minimize unnecessary loads. Then there is the question of access to the World Wide Web. As mentioned before, the graphics,

sound and color capabilities of the World Wide Web require modern and fairly powerful local machines, and many universities and schools simply cannot provide enough of these for all the teachers and students who need them. This is a thorny issue that is facing all but the most affluent institutions.

An additional issue for universities (which usually do not charge their faculty for electronic communications) is the question of dial-up service. The modern teacher's way of grading papers at home at the end of the day is to connect to the Internet and grade e-mail messages. Increasingly, preparation for class involves retrieving materials from the World Wide Web, so Internet access from home is becoming a necessary teaching tool. However, dial-up service is costly to universities. They have to maintain incoming phone-lines and sufficient modems working day and night to meet the demand. So, many institutions simply do not provide adequate dial up service, or else they charge their teachers and/or students for this privilege. As a result, even teachers who do get suitable Internet connectivity through their educational institutions often turn to commercial service providers for dial-up service. Commercial internet access providers have very competitive rates and services these days, and the range of services offered is often more attractive than teachers can get from a university. In addition, commercial services *do not* (or *should not*) have busy signals when consumers dial in, a frequent and frustrating problem encountered at universities where Internet service is overwhelmed by demand.

One unexpected obstacle to teachers getting "on-line" is that it is sometimes hard to find out who in a large university, education authority, or department is responsible for assigning e- mail addresses to eligible staff and teachers. If no one in your department or section seems to have the information you want, try asking the physicists and mathematicians how they got connected, and then follow their lead.

Unfortunately, many schools and universities believe that teachers and classes in the humanities do not need to use electronic communications for *bona-fide* pedagogical activities, or at least do not need to use them as much as teachers of science do. This is a common, but mistaken notion. The Internet is becoming essential as an educational tool. NOT giving students and teachers access to it can make a school uncompetitive and out of date. Increasingly, no educational institution can afford NOT to offer access to all its teachers and students.

Although in the US and many other countries, teachers of children (kindergarten through grade 12) are increasingly gaining Internet access through their schools, most of them still do not have the same opportunities as their university colleagues. In spite of the fact that the US government, like many others, is committed to getting every school "on-line," so far only a minority of schools are connected to the Internet. The country with the greatest percentage of connected schools is Finland, where virtually 100% of schools are on-line. Elsewhere though, grade school teachers who would like to sample and teach from the Internet frequently turn to commercial Internet service providers, which usually offer excellent service (including dial-up service) for a fairly low monthly fee. Like their university colleagues, grade-school teachers are finding that there is a wide range of quality and reliability in the services offered by commercial Internet access providers. To be fair, it must be noted that it is not only the commercial providers whose quality and reliability vary; there is also wide variation in the levels of service offered by educational institutions. If you decide to use a commercial service, consider starting with one of

the well- established ones like *Compuserve* or *America Online* (AOL). They are more expensive than many other local providers, but they are reliable and have excellent technical support-an essential item for new netters. It is possible that after a while you will feel confident enough on the Internet that you would like to exchange the technical support and reliability of the top service providers for the lower cost of one of the newer, smaller companies. The best way to find a good service is to ask your friends for a first-hand recommendation, but if you are the first in your crowd to get on-line, you will have to rely on the local newspaper and/or telephone directory to get a list of services in your area. Here are some questions that you should ask:

- Are your machines and equipment adequate and suitable for the service? There is no point in continuing the conversation if you determine that you do not have the technical capability to support the service. However, it is worth asking if they have modified service (just e-mail, for example) for a modified price. Almost all computers can support e-mail.
- How is the fee computed? It is best to avoid per-hour charges because these can really mount up, and you will spend a lot of on-line time learning the system. Try to find a service that offers a flat rate by the month.
- What does the fee include? Ideally, you want a service that gives you "complete" Internet access, so you should ask about:
  a. unlimited e-mail
  b. access to newsgroups
  c. ftp (see Footnote 1 below)
  d. telnet (see Footnote 1 below)
  e. World Wide Web (explained later in this article).
- Is the access number a local call for you? Or perhaps a toll-free number?
- What modem speeds does the service support? If you are going to be using the WWW and are interested in large files (sound and graphics), then you want the fastest speed available. Even if you do not yet have a very fast modem, it is not a good idea to subscribe to a service that is not keeping up with demands for speed because the responsiveness of the modem depends on the speed of the service.
- What technical support is there?
- When you are just starting out on the Internet, technical support is more important than food! Make sure that there is someone available to help on weekends and in the evening (when you will probably be doing most of your Internet work at home).
- Does the company provide software for the connection? Instructions?
- How many Internet mailboxes does the account allow? Some families like each person to have his/her own electronic mailbox. In the USA, for example, *America Online* allows each account to support five mailboxes, but *Compuserve* only allows one.
- Does the company practice censorship of what its subscribers may read? If you have children in the house, or are going to use the service on a school machine, this question might be crucial to you. However, you can also ask if the company provides facilities for subscriber-controlled choice of Internet forums and activities. There is software available that will permit users to set their service to their own specifications.

Whatever commercial service you decide to use, your first solo excursions on the Net will be both exhilarating and (probably) frustrating. You will be visiting a whole new world, and the

language, culture, and mores of that world can be puzzling and hard to learn at first. The best thing to do once you are on the Internet is to set aside several hours to "play" on the World Wide Web if you have access to it. Also, you need to learn to send, receive, save, print, and delete e-mail. Learn the e-mail addresses of all your friends because it is to them that you will turn when you have questions and problems as you learn to adapt to this new Internet culture.

Students on the Internet

Once the teachers in an institution have access to the Internet, the question naturally arises: How can you use Internet resources with students if students themselves cannot get access? Ideally, all students at any level or age should have the opportunity to learn and use the Internet, just as they use a traditional library. However, in reality, student access to the Internet is often limited, even in fortunate institutions. Generally, restricted access for students is the result of lack of funds for hardware and networked labs. However, there is also a wide-spread belief that access to the Internet is a luxury and is inappropriate for undergraduate students, a belief that causes funds to be allocated elsewhere. Teachers soon come to realize the net's value as a resource which enhances students' learning in the present and their competitiveness in the future. Thus, it is important for teachers to promote student access. Nevertheless, imaginative teachers can engage students in Internet-based activities even if the students themselves have no chance to use Internet- connected computers. The following quotation from an e-mail on-line discussion shows how documents from the internet can be used even when students themselves do not have access. I have included the entire message so that the uninitiated reader can see what a typical message looks like:

> Date: Tue, 10 Sep. 1996 20:17:44 -0700
> Reply-To: paolo rossetti prossett@DIRECT.CA
> Sender: "TESLCA-L: TESL and Technology Branch of TESL-L List"
> From: paolo rossetti prossett@DIRECT.CA
> Subject: Re: 5 Years of Internet Pedagogy
>
> Greetings,
>
> I'm also going to throw in my opinion even though my experience using internet with my students is quite limited. So limited, in fact, that none of my students have internet access.
>
> I have only been able to tap into internet resources from the perspective of a teacher seeking materials and ideas. And what a great tool this is! I have been able to bring to my students an abundance of authentic language relevant to their needs and interests; the language was all neatly typed (professional looking), easily formatted to suit the activity (cloze, etc.) and certainly beyond the reach of an internet-less teacher (newspaper articles from any country, etc.); it was cool, up-to-date materials that the

students actually looked forward to and it was, of course, off the internet!

I think that using the internet for materials and ideas gave me a great boost forward in my classroom. Even if it reached the students in a more traditional photocopied form, it gave them a little window of access to what is happening electronically around them. And I didn't meet any of the get- the-students-used-to-computers problems mentioned on this thread so far.

Regards,

Rossetti
YMCA Vancouver

Clearly, innovative and effective activities can be done using the Internet even if your students do not have personal access to the Net. But if you are lucky enough to have students with Internet access and if you decide to incorporate internet activities into your instruction, there are points that you need to keep in mind. Here some Internet "DOs" to make your Net classes go more smoothly.

Well before your Internet course begins:

1. DO make yourself familiar with the hardware and software that your students will be using.
2. DO try out everything that you are going to teach the students on the same system and machine that you will use with them.
3. DO determine how Internet activities will support the syllabus, how they relate to the focus of the course.
4. DO set clear goals for the course: You might want to have language skills goals, computer skills goals, and content goals, for example.
5. DO plan a clear set of tasks or assignments for students, to help them reach the course goals.
6. DO try out the practicality of every action you plan to assign to students.
7. DO decide how you will grade or evaluate the effectiveness of this activity.
8. If possible, DO determine in advance the keyboarding skills of your students. Decide how to deal with poor keyboarding skills.
9. DO prepare or download from the net a vocabulary list of items relevant to the net and present it to the student ahead of the class.
10. DO insist that your students be on time for sessions in the lab.
11. DO get extra help in the lab on the first couple of days.
12. DO get frequent informal or formal feedback from your students; get written feedback (anonymous) at the end of the semester.
13. DO be prepared for chaos, to be flexible, and to change.
14. DO plan to be exhilarated and also exhausted after the classes.

And here are some matching "DON'Ts"

1. DON'T expect the net to work the same way every time, or for things to go the way you expect every time.
2. DON'T overplan your time in the lab; students need time to "play."
3. DON'T plan activities that have no relation to things that the students are doing in other courses or in their majors.
4. DON'T do everything for the students; let them discover things for themselves and teach each other.
5. DON'T provide handouts for every action-having the students write their own manual is a great activity.
6. DON'T worry about students who don't get it right away; it is a chance for other students to help them and for a lot of language use.
7. DON'T reinvent the wheel! Check out the TESL-L CALL archives and the TESLCA-L branch of TESL-L!
8. DON'T teach anything significant during the first ten minutes of a class in the lab.

Students respond very positively to working on computers and to things like e- mail, but it does take planning and training in order to make the experience a rewarding and profitable one for all concerned. Not only that, you should be prepared for some major unforeseen problems the first few times you "log on" with students.

Materials and Resources for Teachers and Students

a. E-mail-based: Whether you have Internet access with your students or not, there are still, as we saw in the forum message quoted above, many resources on the Internet that will be of great value to your classes. The question, of course, is how to locate them and how to learn to use them. The first stop on the Internet for a new netter should probably be TESL-L, the electronic discussion forum and archives USEFUL for teachers. The files in the on-line archives of the TESL-L electronic forum can easily and successfully be retrieved by an Internet novice. The TESL-L forum is an e-mail-based environment, so you do not need fancy equipment or web access to take advantage of it. In order to use the TESL-L archives, you have to be a member of the forum. To join, send a simple e-mail message to

LISTSERV@CUNYVM.CUNY.EDU

As the body of the message, type four words: SUB TESL-L your full name here.

For example: SUB TESL-L Sharon Stone

LISTSERV, which is a computer program, will sign you on to TESL-L and send you a long Welcome Message, which you should be sure to read and keep because it contains a lot of important information about how to use TESL-L and its special-interest branches.

Joining TESL-L will put you in the company of 16,000 (in September 1996) ESL/EFL teachers in 99 countries; you will be able to share ideas, questions, worries, and suggestions with them via e-mail. Just in case you are wondering.no, you will not receive 16,000 e-mail messages a day! In fact, on the TESL-L forum itself, there are about 20 messages a day, all related to the teaching of ESL/EFL.

The following is a portion of another e-mail message from a writer in Bremen, Germany (reproduced by permission of the writer) describing lessons she has learned using the internet.

Technology: We have often underestimated the ways in which introducing the Internet into the classroom could complicate our lives, whether through ill-timed malfunctions, steeper than anticipated learning curves, or rethinking our roles to include Internet know-how transfer. In addition, we have often miscalculated the affective impact of the technology on our students (irresistibly, even addictively "sexy" for some, intimidating or terrifying for others). Often we are so keen on using all the technological resources we have that we plan "high-end" projects that automatically exclude many potential partners.

Collaborative work: Here, again, we often seriously underestimate the importance of building relationships-and the time and attention it takes to build those relationships, both among the participating faculty and among the students involved. We forget that many of our students have little or no experience with any form of written correspondence, and that those who have had penpals tend to impose their "penpal" expectations on their "e-pal" correspondents.

Classrooms and learning: In this area, experience has been a good teacher for those who have paid attention. As Simon Sergeant noted recently,.I tend to spend more time on learner training in class making sure students understand the purpose of an activity, what they need to do, etc. and afterwards eliciting what has been learned and dealing with any problems, then summarizing individual learning so that it becomes the collective property of the other students. On those occasions when we have tried to fit the Internet into existing lesson plans without adjusting and adapting along the way, the old and the new tend to rub and push against each other like the two sides of a geologic fault. (Sutherland, 1996)

Isn't it great to be able to share ideas like that with teachers from around the world! Once you are a member of TESL-L, you will be able to participate in discussions like this. You will also be able to find all the files that are available from the archives by sending another message to LISTSERV@CUNYVM. CUNY.EDU in the body of the message, simply type

INDEX TESL-L f=mail

LISTSERV (which is a computer program) will immediately send you a list of the files. Here are some of the files that are listed in the archives, available to help you use the Web effectively:

web projects: Ideas for using the WWW to facilitate language learning.

websites langling: A list of web sites related to language and linguistics.

websites more: Suggestions from TESLCA-L of WWW sites to demonstrate to ESL/EFL teachers who are new to computers.

websites tesl: A list of web sites with resources related to TESL/TEFL.

If you would like a list of all the back issues of *English Teaching Forum* Magazine available in the TESL-L archives, send the following message to LISTSERV@CUNYVM. CUNY.EDU

INDEX FORUM

LISTSERV will send you a complete list of the archived FORUM issues along with instructions for retrieving them electronically in minutes.

The TESL-L forum is the largest interactive discussion forum on the Internet, but it is really minute in comparison with everything else that is there. There are archives like TESL-L's of classroom materials, lesson plans, course descriptions, bibliographies, and class activities etc., all over the Internet, particularly in the World Wide Web. However, the place to go to learn about all these things and how to use them is the meeting place of 16,000 of your colleagues, TESL-L.

To find other e-mail forums (generally known as "lists") that might be of relevance and interest to you, send an e-mail message to

LISTSERV@LISTSERV.NET

Leave the subject line blank and then write in the message

LIST GLOBAL /topic
(substituting your subject for "topic").

If you have WWW, other tools for locating lists are:
http://www.liszt.com
http://www.tilenet.com

Follow the instructions given above (for joining TESL-L) when you have located a list that you want to join; you must address your mail to the correct LISTSERV address, though, and substitute the name of the list you want to join for the word "TESL-L" in the instructions above.

Other e-mail-based or text-based resources on the Internet are gopher (try typing GOPHER at your system prompt to see if you can get it) and NETNEWS/USENET, a collection of 10,000 electronic bulletin boards ("newsgroups"), many of which are of interest to TESL/TEFL teachers. To access Netnews, try typing "netnews" at the systems prompt if you do not see netnews as a menu pick.

E-mail "lists" and newsgroups are excellent ways for the newcomer to the net to learn what resources are available and how to use them. For the established "netter," lists and newsgroups remain valued sources of news and companionship. Most Internet users, even the ones who have

"advanced" Web access, use e-mail daily and find it the most helpful part of their net activity. Those who do not yet have reliable and inexpensive Web access will be well served by e-mail, "text-based" resources.

b. World Wide Web: Most people really enjoy using the World Wide Web (WWW) because it is so easy, looks and sounds attractive, and has an immense wealth of information and data. To take advantage of the Web, you need a really fast and stable connection, a computer that supports graphical environments, and an Internet provider that offers Web service. Therefore, many, if not most, people in the world today still cannot access the Web on a regular basis, for reasons of expense or limitations of technology.

However, even though the Web is still inaccessible to millions of people, it is the WWW that is really driving the Internet today, and it is certainly the wave of the future. The Web has characteristics that no other medium can match. Perhaps the hardest to imagine is the vastness and variety of it, the sheer wonder of the freedom of finding precisely the topic and people that one wants, free of restrictions of time or place. At its most elementary, the "Web" is enticing for four important reasons:

1. It is in color, and the color quality is good;
2. it has graphics and attractive formatting capabilities;
3. it can transmit full-motion video; and
4. it can transmit sound, including voice and music.

Of course, TV and various other media have these attributes too, so the question can still be posed: What is so special about the World Wide Web? For educators, the most revolutionary and important attribute of the Web is *hypertext* . Essentially, hypertext is a way of presenting material and information in layers, or "stacks." A piece of text that has *hypertext* items is prepared in HTML (hypertext markup language), and certain words or phrases in the text are colored differently from the rest of the text. The color coding indicates that if the reader clicks on the colored word with the mouse, another text or set of information will be accessed and revealed. And, most amazing, the source of the second "layer" of information that is thus revealed might be a Web site that is located on a machine thousands of miles away, using seamless hypertext "links." The second layer of reading that unfolds when the user points with the mouse and "clicks" on a hypertext item may itself include hypertext items; so the layers of reading and search are infinite (or, "infiNET"). Hypertext allows one piece of text to be read at varying levels of complexity and depth, which is a boon to teachers. One application for language learners is to have the dictionary "embedded" in the document, so that readers can "click" on a word that they don't know and immediately get a definition of the word. The Web is not the only place you can find hypertext, though. Most CD-ROMs have hypertext; a good example would be the *Microsoft Encarta* CD-ROM encyclopedia. Because hypertext allows reading at many different levels and speeds, it is an important tool in the classroom and can greatly help teachers faced with large classes and/or groups with varying levels of proficiency. Students can never claim that they have finished reading!

The WWW needs two important tools in order to be usable: a "search engine" and a "browser." Obviously, a search engine is necessary if one is to locate anything in as vast a landscape as the

WWW, and there are many useful ones available. The most famous are *Yahoo* and *Lycos* . Perhaps the most useful to academics is *AltaVista* . In any case, most World Wide Web service providers supply several search engines, and the new user will soon learn the strong points of each. They generally all work the same way: Users type in keywords that represent the item that they are interested in finding, and then the search engine goes to work, searching all the linked computers of the world, and then comes back with a list of "sites" where the keyword has been found. However, no Web document is readable without a sort of interpreter or reader, called a "browser," which will turn the meaningless machine hieroglyphics of the Internet into readable material and gorgeous pictures and sound. The most famous browsers are *Netscape Navigator, Mosaic* , and *Microsoft's Internet Explorer* . *Microsoft* and *Netscape* are in a fight to the death for market share, since whoever dominates the World Wide Web will have enormous power in the future. As part of their battle to win the hearts and minds of the Web public, all three browsers are available free by downloading from the Internet.

Students love to do Web searches. They are engrossed, reading, writing, and learning while not even realizing it. The World Wide Web is perfect for collaborative research proj- ects. Students in some classes even make Web "pages" that describe themselves and their classmates. Obviously, many language skills go into the creation of a Web page, and the teachers will have to teach students the HTML language, which is really pretty easy. My own students, though, do quite serious research on the Web without actually creating anything on it. They also get "free time" when they can look for anything they want. Invariably, they go searching for the words of songs of their favorite singing stars. Once they find the songs, they pore over them and sing them, trying to reconcile them with what they had tried to figure out from listening to the records. I have trouble getting my students to leave the computer lab, which means that they are really engaged in their activities on the Web because the Web not only provides content, it provides motivation.

The Internet, including the Web, is still a primitive version of our future in electronic communications, but it is already exciting, a wonderful source of information, fun, and language practice. True, some parts of the Internet, especially Web "pages," are often trivial and extremely dull, but there are also many that are inspired and fascinating. Some are offensive, but can easily be avoided. For English language teachers, much of the Internet is an opportunity for "authentic language" interaction and learning, and it is both a window to the future and a mirror of our present. It is indescribable, and all teachers owe themselves and the students they influence the chance to experience this phenomenon, to glimpse the future. But don't take my word for it.try it and see for yourself!

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Footnote 1

*Editor's note: c). File Transfer Protocol, an application program for passing files from one computer to another. d). telnet: an application program that allows you to log on to a remote computer.